

NOTES ON NEST LIFE OF THE BROWN CREEPER IN MASSACHUSETTS.<sup>1</sup>

BY WINSOR M. TYLER.

IN the midst of an extensive wood in the Town of Lexington, Mass., over an area of ten or fifteen acres the land lies in long, more or less parallel, ridges with hollows between, like great solidified sea-waves,— the eskers of the geologists. From crest to crest is a distance of fifty yards or more. The ridges are covered with well grown white pine and an occasional hemlock. The damper hollows are filled with a luxuriant growth of cinnamon fern, shaded by white and black oak, and red maple. Nearby, to the south, and within two hundred yards toward the west are two swamps, one marshy, the other wooded. For the past five or six years, this region has been infested with brown-tail and gypsy moths, and the life of the trees, especially of those growing on the drier ridges, has been threatened. Indeed, at a point where two ridges join, the moth invasion became so serious that, in despair of saving the trees, many of them were cut down over the space of six or seven acres. Many more trees, killed either by the moths or by a forest fire which ran through the locality year before last, remain standing in the clearing, their bark entirely torn off by the wind or gradually falling away in flakes.

In this clearing, I heard a Brown Creeper (*Certhia familiaris americana*) singing on May 5, 1913. Ten days later, early in the morning, I found two Creepers in the clearing. One soon disappeared; the other flew back and forth between the burned trees and a growth of sprout oaks a hundred yards to the north. On each return to the clearing, she carried in her bill some dry grass which she took to her nest behind a piece of loose bark, standing off from the trunk of one of the burned oak trees.

The following notes record the history of this pair of Brown Creepers and the partial history of a second pair which bred eight miles away in Concord, Mass. The record has been made up from

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<sup>1</sup> Read at a meeting of the Nuttall Ornithological Club, November 3, 1913.

my notes which I wrote largely with the birds before me. I have used quotation marks to indicate direct transcription from these field records.

The nest tree is a dead black oak, the trunk of which three feet above the ground measures 33 inches in circumference. Little of the bark has fallen except from the upper half of the tree where it is nearly bare. Eight feet from the base, a slab of bark as broad as the span of one's hand stands off from the trunk; it is continuous above with the unseparated bark of the tree; its free lower border is six inches from the trunk; on each side is a bare area. The cavity behind the bark is nearly filled by the nest,—a mass of sticks, bits of bark and dead wood, caterpillar webbing, dry grass, cocoons and the down of cinnamon ferns,—materials all to be found in the immediate neighborhood. The nest measures seven inches in height. Its base, made chiefly of sticks, projects slightly below the flake of bark. The nest is attached to the inner side of the bark and not to the trunk; when the flake is raised, the entire nest swings out with it. The nest is lined with fern down; the hollow is oval with the long axis parallel to the surface of the trunk; it is built up at the two sides, giving a hammock effect.

"May 17. At the Creeper ground, 7-8 A. M. By standing on a stump, I can look into the nest. It is empty, although practically completed. When the bird comes to the nest, she enters facing the trunk and comes out with her back to it. This is repeated at the next trip. She gives the long, vibrating, sibilant "Ziiit" call and the short "ts" almost continually. Today she collects material from near the nest—from within twenty-five yards. She is always in sight except when she is behind a tree or branch. She adds to the nest what appears to be a bit of bark. She is away for two minutes,—the next time for one minute—again for one minute. When ascending a smooth, barkless trunk she spreads her feet far apart (as a squirrel would). She finds nesting material here,—fine filaments which she peels off. She generally alights below the nest and creeps up to it; sometimes she alights above and hitches downward, moving backward and sideways. She goes now to the ground for dry grass. She hops about for a distance of ten feet, gathering blades eight inches long. She creeps easily over rocks, even over an almost upright face. The

darker male brings dry grass to the nest and goes behind the bark, but he does not add the material to the nest; he waits about. The female returns, adds to the nest the grass she has brought, then takes the grass from the male. Now she is collecting shreds from the inner bark of a dead oak tree, sometimes in her search crawling under projecting strips of bark. She often tries to break off tiny twigs by grasping them in her bill and shaking them,—once she hovers in the air in the attempt."

"May 19, 8:30 A. M. Neither bird seen about the nest. The cup is deep and I see no eggs. I do not dare to feel in the nest for fear of dislodging it."

"May 20, 3 P. M. One egg in the nest. In the semi-darkness behind the bark the shell appears white and unmarked. The birds are not within hearing."

"May 21, 4 P. M. The nest contains two eggs. White with pinkish tint. I see no markings."

"May 22, Noon. A cloudy day. I can see into the nest perfectly well today; previously the dazzling light has made the cavity seem dark. There are four eggs in the nest. They are spotted with fine brown specks about the larger end."

"May 24, 3:30 P. M. Six eggs. Female on the nest. When I look in, she flies off, but returns in five minutes. The notes of the female when disturbed are the "ts" and the customary long "Ziit,"—the same notes she used when building her nest and when undisturbed. I believe now that I did not see the full number of eggs until the 22nd, that the first egg was laid on the 19th and that one has been laid each day since."

"May 28, 7 A. M. A damp cloudy morning, temperature 46°, Wind east. The female is on the nest facing the main entrance. She does not leave when I peek in two feet away. The male Creeper is collecting food; he goes about with a tuft of insects in his bill,—he sings even while carrying a good sized tuft. 7:40. He comes to the vicinity of the nest and calls; the female joins him,—side by side, heads up, on a tree trunk near the nest he feeds her. She flutters her wings like a young bird asking for food. She returns soon to the nest and the male retires. At 7:45, he returns and, calling "Ziit," flies to the nest. His mate reaches out and takes food from his bill,—her head appears at main en-

trance. She must be on the side of the nest. Again at 8:15, the male carries food to the nest and goes out of sight beneath the bark.

"Sometimes the Creepers climb high in a tree to where the branches are so small that, in ascending, the birds almost grasp them in their claws. They do not (or I have not yet seen them) perch crosswise on the little twigs. When crawling out a horizontal limb, they often wind about it so that the back faces the ground. Often, too, a bird sits perfectly motionless for a minute or two, even with food in its bill."

When the two birds were side by side, it was apparent that the male was slightly the darker, but this difference in color was not sufficiently marked to serve as an identification when only one bird was in sight.

"May 30. This morning Mr. Walter Faxon found the nest and the slab of bark on the ground at the foot of the nest tree. All the eggs were broken. The birds were nowhere to be seen. The heavy wind of last night was, without doubt, responsible for the catastrophe."

In the afternoon of May 18, 1913, Mr. Faxon discovered the nest of a pair of Brown Creepers in Concord, Mass.

"This nest is twelve feet from the ground behind the loosened bark of a dead white oak tree, the trunk of which, three feet up, measures 54 inches. The flake of bark which shelters the nest is attached at the top and on one side and hangs closely to the trunk. A handful of material (sticks, etc., the base of the nest) protrudes from the free lower edge. A foot above this is a tiny hole — no bigger than a mouse's hole — through which the bird crawls down to the nest. Mr. Faxon and I spent an hour (May 19) about the nest. Once a bird came out and, after feeding for a minute or two from the surrounding tree trunks, moved off. Fifteen minutes later, we heard her notes as she approached. She flew to the nest tree, alighted below the nest, crawled up to the hole, turned head downward with her back to the trunk and disappeared. The nest tree stands on high land in an open grove of white pine and oak near the shore of a small pond. Presumably the female bird is incubating."

From the report of Mr. and Mrs. C. A. Robbins of Onset, Mass., both Creepers were feeding young on May 21.

"May 26. The Concord nest, 4 P. M. After an interval when both birds are absent, one bird visits the nest three times and the other once; all four visits are made within five or ten minutes. The bird which comes oftener is paler than the other. This pale one in every instance enters and leaves the nest cavity by a tiny opening just above the protruding material, six inches below the entrance used during incubation (May 19). As this bird comes out head first, it must turn around inside. The darker bird in its one visit uses the upper hole in entering and leaving. It brings from the nest a bit of white excrement which appears almost globular in shape and flies away with it. The birds collect food for the young from the bark of the trees nearby — small insects. Once Mr. Faxon made out a spider in a parent's bill."

As in the case of the Lexington Creepers, the difference in color was diagnostic only when the birds were together.

On the second of June, from 11 A. M. till noon, Mr. Faxon and I watched the Concord Creepers feeding their young. The parents brought food to the nest every few minutes and during the entire period were almost always within sight or hearing. We soon convinced ourselves that each bird used a different hole, both on entering and leaving the nest and from the fact that the incubating bird had always entered by the upper hole we suspected that the female was still using this entrance while the male came and went below. On one occasion, we saw the "upper hole bird" creep down to the nest and stand over the young with half-spread wings for a minute or two. This maternal brooding by the supposed female strengthened our opinion and when on June 3rd I heard the male sing repeatedly while the female who had entered by the upper crevice and who afterwards left by it, was in the nest, we felt no doubt of the respective sexes of the two birds. At our visit on June 2, it appeared to us that the male bird was as diligent as the female in feeding the young birds and in carrying away their excrement.

In order to determine this point with mathematical accuracy, I stationed myself at 7:15 the next morning (June 3) eighteen feet from the nest and, for the succeeding hour and a half, recorded at each visit of the parents which entrance was used and whether or not excrement was taken away on leaving. The following table indicates the result.

	7:15-7:45	7:45-8:15	8:15-8:45	Totals
♀ Upper entrance, leaves with excrement	3	0	2	5
leaves without "	8	5	6	19
♂ Lower entrance, with excrement	1	1	1	3
without "	0	1	7	8
♂ Lower entrance, } with excrement	0	0	1	1
without entering } without "	5	0	4	9
Totals	17	7	21	45
♀ 24 visits — removes excrement 5 times.				
♂ 21 visits — removes excrement 4 times.				

During the first half hour, the male sang frequently. Evidently this interfered with his feeding the young. During the second period both parents were absent for ten minutes. Once in the hour and a half, the male, entering below, left by the upper hole. He was disturbed by the coming of the female, I think, although she went away without entering.

As the Creepers hunted about for food, and as they flew to the nest, they uttered continually both from a perch and while in the air, their single high sibilant call, "ts," a note which suggests the slightest chip-note of *Regulus satrapa*. Often too they give the long, tremulous "Ziit," but only, I believe, when perched. When bringing food to the nest tree, the female alighted above the nest (6-10 feet) and descended to it by successive flights in loops; the male generally alighted below the nest and crept upward. Whenever the parents entered the nest, the young birds reared and I could see them plainly through the lower hole which had been enlarged by the frequent passage of the male bird. When they opened their mouths, the pale yellow lining shone out clearly in the dim light. The female parent in feeding stood head downward above the nest in the cavity behind the bark. Although more convenient, it would seem, to leave by the lower crevice (her head was almost opposite this entrance) she invariably turned and climbed out the hole by which she had entered. The male parent often took the same position, but in ten of his twenty-one visits to the nest he did not go behind the bark,— he merely reached in through the lower entrance.



Having delivered the food to the young birds, the parents waited motionless for a moment. If a nestling was ready to void excrement, he began at once to hitch and shuffle about in the nest, then, straightening his legs and raising his tail, he slowly expelled a fæcal sac upward toward his parent. The black needle-like bill of the adult bird closed immediately upon the sac and steadied it, — perhaps aided in its delivery — until it was entirely expelled. The voiding of excrement was a leisurely process; all the movements were slow; there was none of the snapping up and snatching one sees in a nest of Robins.

In watching a pair of Brown Creepers about their nest, whether they are building, incubating their eggs, or feeding their young, one is soon impressed by an air of happiness and calm which pervades the active little birds. From the behavior of many birds, one comes to associate the finding of a nest with anxiety expressed in various ways, — with the nervous panic of the Warblers, the Robin's hysterical apprehension, the noisy complaint of the Crow and even with the polite uneasiness of the gentle Field Sparrow. The Brown Creeper, however, although doubtless observant, does not seem to look upon man as a danger; he continues his work uninfluenced, I believe, by close scrutiny. Happy and calm, even under observation, the Creepers appear preoccupied in their work and the comradeship of a pair is very pretty to see. The male shares with the female her interest in the progress of the nest; even although he knows nothing of nest building he collects material and offers it to his mate. Ever ready to assist, he feeds the female while she builds and while she is sitting and, after the young are hatched, he is no less industrious than she in caring for their needs.

The young birds left the Concord nest early on June 4 (possibly June 3). At 8 A. M., two were clinging, thirty feet from the ground, to the trunk of a living white pine tree which stood not far from the nest. One or two more were on another pine trunk. The little birds were extremely difficult to find by reason of their small size, their distance from the ground, their inconspicuous color and especially because each took a station in the dark shadow immediately below a horizontal limb. Here they remained motionless for many minutes. Later, two young birds, one following the other, moved upward by feeble hitches and perched or squatted

close to the trunk in the right angle formed by the limb. In hitching over the bark, they moved almost straight upward and whenever I saw them as a silhouette against the sky, and could thus determine the point, they did not use their tails for support. The shortness of the young Creeper's tails gave to their bodies a rounded, unbird-like outline and, with their short, stubby bills of wide gape and their squatting position on the upright bark they suggested tree-toads in no small degree. Like most young birds after they leave the nest, the fledgling Creepers were more noisy than they had been the day before. They announced their whereabouts to their parents with a note not previously heard,—a high sibilant call, "*tsssi*," or sometimes clearly divided into two syllables thus:—"*ts-tssi*." The voice was very slightly tremulous and, although the pitch and delivery of the notes were decidedly Creeper-like, they suggested to Mr. Faxon and me a flock of Cedarbirds.

The female parent, impelled probably by habit, visited the nest tree three times and looked in the upper entrance hole. Once she entered the nest cavity, but returned without feeding. Finally she came to the two young birds clinging side by side on the pine trunk. She took a position below and behind them and fed one. The young bird extended his neck way back to take the food. The male bird was still associated with the family and I have no doubt that he too was feeding the young birds. He did not sing during an hour or more. We did not visit the Concord Creepers again.

The effect upon the pair of Lexington Creepers whose nest was blown down on May 30 was to excite the nest-building instinct of the female and to stimulate the male to a renewed period of song. In the afternoon of the same day, Mr. Faxon and I found the pair in the clearing closely associated,—the male singing continually, the female busily exploring dead tree trunks and creeping under loose bark, in search of a new nest site.

"May 31, 7-8 A. M. The male Creeper sings frequently; his voice rings through the wood: he sings louder and more frequently, it seems, than previously. The female carries nesting material behind a piece of bark on a dead white oak tree, 75 yards to the north of the former nest site. The new site is fifteen feet from the



ground. The bark lies closer to the trunk than on the other tree,—the cavity behind it is therefore smaller. Already pieces of wood and, I think, a feather protrude from a crevice below where the nest is to be. Once the male comes to the tree, but he does not bring nesting material.”

“June 1, 8:30–10 A. M. The birds have abandoned the nest on which the female was working yesterday in favor of a new site 25 yards to the south of the original nest. The new site (No. 3) is in the same hollow as the first nest; the tree (a black oak) is smaller, but as was the case in both the other trees, it is dead and much of the bark still clings to it. The nest is already well under way. Our attention was attracted to it by the material projecting beneath a loose cuff-shaped bit of bark which nearly encircles the tree. At two points, one above the nest and the other below it, the cuff is attached to larger areas of unseparated bark. The birds enter the cavity from above. The entrance is six inches above the nest and eight feet from the ground. The male sings freely this morning and much of the time remains in the vicinity of the nest, often accompanying the female on her excursions for nesting material. When we first came upon the pair, the female was making long flights from the nest. She brought in bits of bark and some fuzzy material (fern down or caterpillar webbing). We saw her collect also bits of bark from nearby trees. Twice at least the male brought material and delivered it (bark or dead wood) to the female who was in the nest cavity. The female made half a dozen long flights, returning every two minutes. Then she flew eight times in the next ten minutes to a very small dead white pine a few yards away and returned each time with one or more fine twigs. Often after returning with a twig six inches long, she had some difficulty in forcing it through the entrance hole. She was wise enough, however, to turn her head so that the twig might slip in end first. Once, when she brought in a beakful of fern down, the material kept catching on the rough bark and tripping her up, but by bending her neck backward she was able to hold the stuff clear of the bark. In her trips to the little dead pine, the Creeper always alighted on the slender trunk, but in order to reach the terminal twigs she had to hop out on the smaller branches. Sometimes, when these were very small, she perched crosswise upon them; often she crawled

around them,—her back to the earth. When perched, her tail hung straight downward, like a Phœbe's or a Brown Thrasher's when he sings. She broke off the twigs by tugging at them while perched or while fluttering in the air. Twice one of the pair took a bit of material from that which protruded from the base of the nest and carried it inside the nest cavity. Soon after her trips to the pine the bird disappeared for nineteen minutes. On her return, she brought a cocoon.

The use of both the fern down and the webbing is, I believe, to bind the twigs together and to hold the nest to the bark, against which it rests. In the first nest site, if it had not been for this adhesion, the nest would have fallen to the ground of its own weight, for its base was unsupported."

At 9 A. M., June 2, we found one of the birds at nest No. 3. Half an hour later, both birds were at the second nest (the nest which on June 1 we thought had been deserted). The female flew to the nest with a bit of bark ( $2\frac{1}{2} \times \frac{1}{4}$  inches) then pulled from the protruding base of the nest a piece of fuzz and took it into the cavity. Five minutes later she (or her mate) crept again to the base and pulled off a bit of bark which she carried within. This economical habit of using material twice (first for the foundation and later for building the nest proper) is apparently a common practice. We saw it again and again.

On June 5, 8-8:30 A. M. I saw or heard nothing of the birds.

June 9, 7.30-8.50 A. M. The female entered nest No. 3 at 7.35. The male remained in the vicinity and sang frequently, at 7.45, 8.15, and 8.48. He called the female from the nest and fed her, and each time she returned at once to the nest where "she is evidently incubating."

On the following morning (June 10) there were two eggs in the nest No. 3. The female bird came to the nest and it seemed evident that she was laying a second set of eggs. Such was not the case, however. During the next three days the two birds busied themselves in continuing to build nest No. 2 and were never or rarely seen about the nest which contained the eggs. No more eggs were layed in this nest and our conclusion was that it had been made merely to receive the two eggs, probably the remnant of the first set.

From June 13, the Creepers were followed by Mr. George Nelson

of East Lexington who kindly permits me to add that the birds built two more nests and that in one of these the female laid eggs which were destroyed by a thunder storm early in July.

*Summary of details of nests.*

	Faced	Height	Tree	Circumference of trunk 3 ft. up.
Nest No. 1	ENE	8 ft.	Black Oak	33 inches
Nest No. 2	SSE	15	White Oak	29 inches
Nest No. 3	NE by N	8	Black Oak	22 inches
Concord nest	SSE	12	White Oak	54 inches

The history of these two pairs of Creepers suggests a reason for their breeding so far south of their normal range and also a cause of the failure of one pair to raise their young.

Breeding Brown Creepers are rare in eastern Massachusetts; they have been reported here in summer not more than a dozen times in the last thirty-five years. For the most part, the nests were built in white cedar or red maple trees standing in dense wet swamps.<sup>1</sup> One nest was found in a dead white pine<sup>2</sup> and another in a pitch pine<sup>3</sup>, both surrounded by woodland. It is to be noted that these former Massachusetts nests were placed in situations not very dissimilar from those on the birds' regular breeding ground in northern New England.<sup>4</sup>

The sites, surrounded by trees, were well protected from the wind and the nests themselves were sheltered by strong or tenacious bark. Very different conditions prevailed in the Concord nest site and in all the five in Lexington. The six nest trees stood either in a clearing or in an open wood, and were exposed to the wind to a greater or less extent. The nests were built in trees, long dead, with brittle or frail bark,—black or white oak,—trees with which the Creeper can have had little experience in the Canadian Zone. That the Concord nest withstood the strain of the wind and of the

<sup>1</sup> Kennard, F. H., & McKechnie, F. B., Auk, XXII, 183-193.  
Chadbourn, A. P., Auk, XXII, 179-183.

<sup>2</sup> Kennard, F. H., & McKechnie, F. B., op. cit.

<sup>3</sup> Townsend, C. W., Birds of Essex County, 1905, p. 307.

<sup>4</sup> Brewster, W., Bull., N. O. C. IV, 199-209.

birds' continual passage in and out was due in large measure, not to the strength of the bark, but to the fortuitous circumstance that the loosened strip was adherent along the whole of one side to the firm bark of the trunk. This nest tree was, moreover, larger and in a more sheltered situation than any of the others.

For many years past, there have been few dead trees in eastern Massachusetts except in such remote localities as the almost inaccessible swamps where Messrs. Kennard and McKechnie found their Brown Creepers breeding. Of late years, however, this region about Boston, Mass., has been the very center of the gypsy and brown-tail moth invasion with the result that in many pieces of woodland the trees, after being stripped year after year by the larvæ, have been decimated. The trees which die first, and in the greatest number, are the oaks,— the favorite of the gypsy moth.

This wholesale killing of the oaks has opened up the woodland in two ways,— primarily through the loss of the foliage of the trees which have been killed and secondarily (as in the case of the clearing in Lexington) through the extensive cutting off of living trees by the owners of infested regions to save their threatened property. The result is that there are at the present time in eastern Massachusetts hundreds of acres of devastated woodland abounding in sites of suitable size for Brown Creepers' nests. Many of the sites are unfavorable for nesting, however, in that they are exposed to the full force of the wind and sheltered insufficiently by fragile oak bark.

That the two pairs of Brown Creepers noted in the present paper were the only ones which passed the summer in this vicinity is highly improbable: the increase in the number of breeding sites, unfavorable though many of them are, has no doubt induced many other Creepers to tarry in their northward spring migration and to attempt to breed here. That few have been discovered is not surprising for, as has been emphasized above, the Creepers, in the main, stay very near their nesting ground and often for long periods keep nearly silent.

It is probable, indeed, that the Brown Creeper is, for the time being, a regular summer resident, if no more than a rare one, in eastern Massachusetts and that the species will be found breeding here as long as the moths continue to kill the trees.

Mr. Walter Faxon has pointed out another change in our avifauna due to the same cause,—the killing of the trees by moths. Mr. William Brewster<sup>1</sup> writing in 1906 gives for this locality but a single summer record of the Hairy Woodpecker (*Dryobates villosus villosus*). At the present time, however, this bird is a not uncommon summer resident in Lexington, Mass., a town included in the Cambridge Region. Indeed during the past summer (1913) a pair bred near the clearing where the Brown Creepers built their five nests.

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## THE FALLACY OF THE TENDENCY TOWARDS ULTRA-MINUTE DISTINCTIONS.

BY J. D. FIGGINS.

ALTHOUGH conservative ornithologists deplore and have repeatedly protested against the seeming unfortunate tendency towards the creation of endless subspecies upon differences too slight for identification by physical comparison, an examination of recent literature would indicate that but little had been accomplished.

In certain genera many identifications are quite impossible unless the student be willing to accept purely geographical evidence of an extremely doubtful character. Indeed there are now numerous forms unrecognizable by even their sponsors, except through a knowledge of the locality from which such specimens were taken; and were the subject of less importance one's regret would be limited by his sense of humor.

While a geographical interval, together with physical differences, or variations sufficiently pronounced to be apparent to the average student would seem reasonable ground for separation, conservative ornithologists doubt the wisdom of some of the late ultraminate distinctions. A continuance of this "Futuristic" school of ornithology will obviously lead to geography as a text-book of more

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<sup>1</sup> Birds of the Cambridge Region, 1906, p. 210.